

**U. S. PLANT PATENT APPLICATION OF**

**WENDY R. BERGMAN**

**FOR: CHRYSANTHEMUM PLANT NAMED**

**‘YOMANHATTAN’**

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TITLE: CHRYSANTHEMUM PLANT NAMED 'YOMANHATTAN'

APPLICANT: WENDY R. BERGMAN

BOTANICAL CLASSIFICATION/CULTIVAR DESIGNATION:

*Chrysanthemum X morifolium* cultivar Yomanhattan

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## BACKGROUND OF THE INVENTION

The present Invention relates to a new and distinct cultivar of *Chrysanthemum* plant, botanically known as *Chrysanthemum X morifolium* and hereinafter referred to by the name 'Yomanhattan'.

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The new *Chrysanthemum* is a product of a planned breeding program conducted by the Inventor in Salinas, California and Fort Myers, Florida. The objective of the breeding program is to create new potted *Chrysanthemum* cultivars that are suitable for year-round production with uniform plant growth habit, good vigor and strong branching habit, numerous inflorescences, desirable inflorescence form and floret colors, fast and uniform flowering response, and good postproduction longevity.

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The new *Chrysanthemum* originated from a cross-pollination made by the Inventor in November, 1998, in Salinas, California, of the *Chrysanthemum* cultivar Sierra, disclosed in U.S. Plant Patent number 10,226, as the female, or seed, parent with a proprietary *Chrysanthemum* seedling selection identified as code number YB-4035, not patented, as the male, or pollen, parent. The new *Chrysanthemum* was discovered and

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selected by the Inventor as a single flowering plant within the progeny of the stated cross-pollination grown in a controlled environment in Salinas, California. The selection of this plant was based on its uniform plant growth habit, good vigor and strong branching habit, numerous  
5 inflorescences, desirable inflorescence form and floret colors, fast and uniform flowering response, and good postproduction longevity.

Asexual reproduction of the new Chrysanthemum by vegetative tip cuttings was first conducted in Fort Myers, Florida in February, 2000. Asexual reproduction by cuttings has shown that the unique features of  
10 this new Chrysanthemum are stable and reproduced true to type in successive generations.

#### SUMMARY OF THE INVENTION

The cultivar Yomanhattan has not been observed under all possible environmental conditions. The phenotype may vary somewhat with  
15 variations in environment such as temperature, daylength, and/or light level, without, however, any variance in genotype.

The following traits have been repeatedly observed and are determined to be the unique characteristics of 'Yomanhattan'. These characteristics in combination distinguish 'Yomanhattan' as a new and  
20 distinct Chrysanthemum:

1. Uniform and outwardly spreading plant habit.

2. Strong and freely branching growth habit.
  3. Dark green-colored foliage.
  4. Uniform flowering response and habit.
  5. Early flowering, 8.5-week response time.
  - 5 6. Decorative-type inflorescences.
  7. Golden yellow-colored ray florets.
  8. Good postproduction longevity with plants maintaining good substance and color for about three to four weeks in an interior environment.
- 10 Plants of the new Chrysanthemum differ primarily from plants of the female parent, the cultivar Sierra, in the following characteristics:
1. Plants of the new Chrysanthemum are more outwardly spreading than plants of the cultivar Sierra.
  2. Foliage of plants of the new Chrysanthemum is denser than  
15 foliage of plants of the cultivar Sierra.
  3. Plants of the new Chrysanthemum flower about three to four days later than plants of the cultivar Sierra.
  4. Plants of the new Chrysanthemum and the cultivar Sierra  
20 differ in ray floret color as plants of the cultivar Sierra have white-colored ray florets.

Plants of the new Chrysanthemum differ primarily from plants of the male parent selection in the following characteristics:

1. Plants of the new Chrysanthemum flower about three to four days later than plants of the male parent selection.
- 5 2. Plants of the new Chrysanthemum have decorative inflorescences whereas plants of the male parent selection have semi-double inflorescences.
- 10 3. Plants of the new Chrysanthemum and the male parent selection differ in ray floret color as plants of the male parent selection have pink-colored ray florets.

Plants of the new Chrysanthemum can be compared to plants of the cultivar Iridon, disclosed in U.S. Plant Patent number 6,125. In side-by-side comparisons conducted in Fort Myers, Florida, plants of the new Chrysanthemum differed from plants of the cultivar Iridon in the following characteristics:

1. Plants of the new Chrysanthemum were more vigorous than plants of the cultivar Iridon.
2. Plants of the new Chrysanthemum were more outwardly spreading than plants of the cultivar Iridon.
- 20 3. Plants of the new Chrysanthemum flowered about three to four days earlier than plants of the cultivar Iridon.

4. Ray florets of plants of the new Chrysanthemum were golden yellow in color whereas ray florets of plants of the cultivar Iridon were yellow in color.

#### BRIEF DESCRIPTION OF THE PHOTOGRAPHS

5           The accompanying colored photographs illustrate the overall appearance of the new Chrysanthemum showing the colors as true as it is reasonably possible to obtain in colored reproductions of this type. Colors in the photographs may differ from the color values cited in the detailed botanical description which accurately describe the colors of the  
10       new Chrysanthemum. The photograph on the first sheet comprises a side perspective view of typical flowering plants of 'Yomanhattan'. The photograph on the second sheet comprises a close-up view of typical inflorescences of 'Yomanhattan'.

#### DETAILED BOTANICAL DESCRIPTION

15           In the following description, color references are made to the Royal Horticultural Society Colour Chart, 1995 Edition, except where general terms of ordinary dictionary significance are used. The aforementioned photographs, following observations and measurements describe plants grown and flowered during the spring in Salinas, California, in a  
20       fiberglass-covered greenhouse and under conditions which approximate those generally used in commercial potted Chrysanthemum production.

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During the production of these plants, the following conditions were measured: day temperatures, 21 to 27°C; night temperatures, 17 to 19°C; and light levels, 5,000 to 6,000 foot-candles. Four unrooted cuttings were directly stuck in 15-cm containers, exposed to long day/short night conditions, and pinched once about 14 days later. At the time of the pinch, the photoinductive short day/long night treatments were initiated. Plants used for the photographs and description were grown as disbud-types. Measurements and numerical values represent averages of typical flowering plants.

10 BOTANICAL CLASSIFICATION:

*Chrysanthemum X morifolium* cultivar Yomanhattan.

COMMERCIAL CLASSIFICATION:

Decorative-type potted Chrysanthemum.

PARENTAGE:

15 Female, or seed, parent: *Chrysanthemum X morifolium* cultivar Sierra, disclosed in U.S. Plant Patent number 10,226.

Male, or pollen, parent: Proprietary *Chrysanthemum X morifolium* seedling selection identified as code number YB-4035, not patented.

20 PROPAGATION:

Type: Terminal tip cuttings.

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Time to initiate roots: About four days at 21°C.

Time to produce a rooted cutting: About ten days at 21°C.

Root description: White, close to 155D; fibrous.

Rooting habit: Freely branching.

5 PLANT DESCRIPTION:

10 Appearance: Herbaceous decorative-type potted Chrysanthemum that is typically grown as a disbud-type. Uniform with lateral branches outwardly spreading; uniformly mounded crown. Strong and freely branching growth habit; about four lateral branches develop after removal of terminal apex (pinching); dense and full plants.

Plant height: About 21 cm.

Plant width: About 37 cm.

Lateral branches (peduncles):

15 Length: About 14 cm.

Diameter: About 3.5 mm.

Internode length: About 1.1 cm.

Strength: Strong.

Texture: Pubescent.

20 Color: Close to 146A.



Foliage description:

Arrangement: Alternate; simple.

Length: About 8.1 cm.

Width: About 5.9 cm.

5 Apex: Mucronate.

Base: Attenuate.

Margin: Palmately lobed, sinuses between lateral lobes mostly parallel.

Texture, upper and lower surfaces: Slightly pubescent.

10 Color:

Developing expanded foliage, upper surface: Close to 147A.

Developing expanded foliage, lower surface: Slightly darker than 147B.

15 Fully expanded foliage, upper surface: Close to 147A.

Fully expanded foliage, lower surface: Close to 147B.

Venation, upper surface: Close to 146B.

20 Venation, lower surface: Close to 144A.

Petiole length: About 2.3 cm.

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Petiole diameter: About 3 mm.

Petiole color, upper surface: Close to 146A.

Petiole color, lower surface: Close to 146B.

#### INFLORESCENCE DESCRIPTION:

- 5            Appearance: Decorative-type inflorescence form with elongated oblong-shaped ray florets. Inflorescences borne on terminals above foliage. Disk and ray florets develop acropetally on a capitulum. Inflorescences not fragrant. Plants are typically grown as disbud-types.
- 10           Flowering response: Under natural conditions, plants flower in the autumn/winter in the Northern Hemisphere. At other times of the year, inflorescence initiation and development can be induced under short day/long night conditions (at least 13.5 hours of darkness). Early flowering; plants exposed to two weeks of long
- 15           day/short night conditions followed by photoinductive short day/long night conditions flower about 8.5 weeks later.
- Postproduction longevity: Inflorescences maintain good color and substance for about three to four weeks in an interior environment.
- Quantity of inflorescences: Grown as a disbud-type, only one
- 20           inflorescence develops per lateral branch.

Inflorescence bud:

Height: About 7 mm.

Diameter: About 8 mm.

Shape: Oblate.

5                   Color: Close to 146A.

Inflorescence diameter: About 9.5 cm.

Inflorescence depth (height): About 2.8 cm.

Diameter of disc: About 4 cm.

Receptacle diameter: About 9 mm.

10               Ray florets:

Shape: Elongated oblong.

Orientation: Initially upright, then perpendicular to the  
peduncle and eventually reflexing.

Aspect: Incurved to flat to arching.

15               Length: About 4.7 cm.

Corolla tube length: About 7 mm.

Width: About 9 mm.

Apex: Mostly acute.

Base: Fused into a corolla tube.

20               Margin: Entire.

Texture: Smooth, glabrous, satiny.

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Number of ray florets per inflorescence: About 188  
arranged in numerous whorls.

Color:

When opening and fully opened, upper surface: 9A.

5 When opening and fully opened, lower surface: 9B  
to 9C.

Disc florets:

Arrangement: Massed at center of receptacle.

Shape: Tubular, elongated.

10 Apex: Five-pointed.

Length: About 5 mm.

Diameter, apex: About 1 mm.

Diameter, base: Less than 1 mm.

Number of disc florets per inflorescence: About 20.

15 Color:

Immature: Close to 154A.

Mature:

Apex: Close to 9A.

Mid-section: Close to 155A.

20 Base: Close to 155D.

Phyllaries:

- Quantity per inflorescence: About 25.
- Length: About 9 mm.
- Width: About 3.5 mm.
- 5 Shape: Deltoid.
- Apex: Acute.
- Base: Truncate.
- Margin: Entire.
- Texture, upper surface: Waxy, smooth.
- 10 Texture, lower surface: Pubescent.
- Color, upper surface: Closest to 146A.
- Color, lower surface: Close to 146A.
- Reproductive organs:
- Androecium: Present on disc florets only.
- 15 Anther color: Close to 9A to 12A.
- Pollen amount: None observed.
- Gynoecium: Present on both ray and disc florets.
- Style color: Close to 144B to 144C.
- Stigma color: Close to 9A.
- 20 Seed/fruit: Seed and fruit production has not been observed.

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**DISEASE/PEST RESISTANCE:**

Resistance to pathogens and pests common to Chrysanthemums has not been observed on plants grown under commercial greenhouse conditions.